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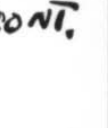
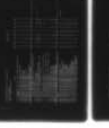
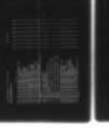
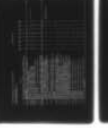
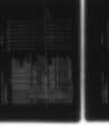
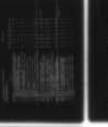
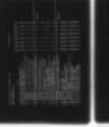
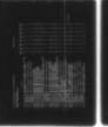
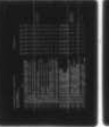
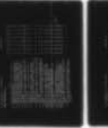
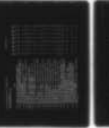
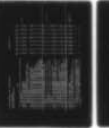
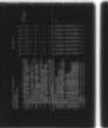
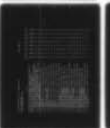
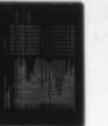
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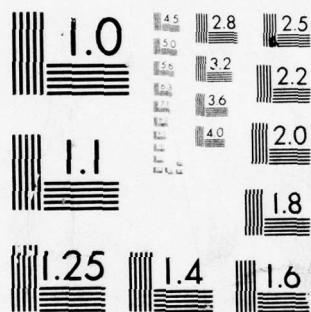
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9 OCCUPATIONAL SURVEY REPORT  
ELECTRONIC PRINCIPLES

ADA044125



6 ANALOG FLIGHT SIMULATOR SPECIALIST

AFSC 34153

14 AFPT-90-341-222

11 22 AUGUST 1977

OCCUPATIONAL SURVEY BRANCH  
USAF OCCUPATIONAL MEASUREMENT CENTER  
LACKLAND AFB TEXAS 73236

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## PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Analog Flight Simulator Specialist, AFSC 34153.

The Electronic Principles Inventory (EPI) was developed by Major Thomas J. O'Connor and Mr. Hendrick W. Ruck and the survey data were analyzed by Mr. James B. Keeth. All are members of the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas.

Computer programs for analyzing the data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Distribution of this report is made upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Lackland AFB, Texas 78236.

This report has been reviewed and is approved.

JAMES A. TURNER, JR., Colonel, USAF  
Commander  
USAF Occupational Measurement Center

WALTER E. DRISKILL, Ph.D.  
Chief, Occupational Survey Branch  
USAF Occupational Measurement Center

ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT  
ANALOG FLIGHT SIMULATOR SPECIALIST  
AFSC 34153

INTRODUCTION

→ This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Analog Flight Simulator Specialists (AFSC 34153). The data for this report were collected during the period April through June 1977.

This report describes: (1) development and administration of the survey instrument; and (2) electronic principles used by DAFSC 5-skill level personnel both CONUS and overseas and assigned to selected major commands.

DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI)

The EPI was developed by personnel from the Occupational Survey Branch who were well qualified in theoretical physics and electronics, as well as in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the inventory. Representing the five ATC training centers, electronics experts who averaged 12 years of maintenance experience and four years of electronic principles instruction experience spent several weeks refining the EPI. In addition, personnel at the Electrical Engineering Department of the USAF Academy and the Air Force Human Resources Laboratory were consulted during the development of the inventory.

The final version of the EPI used in this survey contained 1,257 items in 62 subject matter areas covering all electronic principles training given at the five ATC technical training centers. Table 1 lists the 62 subject areas.

ADMINISTRATION

The Electronic Principles Inventory was administered by mail to AFSC 34153 airmen worldwide. Responses from 202 individuals represented 60 percent of the total of all AFSC 34153 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

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TABLE 1  
EPI SUBJECT AREAS

<u>SEQUENCE OF SUBJECT AREAS</u>	<u>SUBJECT AREA TITLE</u>	<u>BEGINNING ITEM NUMBER</u>	<u>GPSUM PAGE NUMBER</u>
1	MATHEMATICS	A1	2
2	DIRECT CURRENT AND VOLTAGE	A15	2
3	RESISTANCE	A24	2
4	MULTIMETER USES	B52	3
5	ALTERNATING CURRENT	B61	4
6	INDUCTORS AND INDUCTIVE REACTANCE	B67	4
7	CAPACITORS AND CAPACITIVE REACTANCE	C92	5
8	TRANSFORMERS	C128	6
9	MAGNETISM	C171	7
10	RCL CIRCUITS	D185	8
11	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	D229	10
12	FILTERS	D239	10
13	COUPLING	E261	11
14	SOLDERING	E273	11
15	RELAYS	E295	12
16	MICROPHONES	F314	12
17	SPEAKERS	F327	13
18	OSCILLOSCOPES	F342	13
19	SEMICONDUCTOR DIODES	G354	13
20	TRANSISTORS	G404	15
21	TRANSISTOR AMPLIFIERS	G428	16
22	SOLID-STATE SPECIAL PURPOSE DEVICES	H477	19
23	POWER SUPPLIES	H483	19
24	OSCILLATORS	H512	19
25	MULTIVIBRATORS	I539	20
26	LIMITERS AND CLAMPERS	I555	21
27	ELECTRON TUBES	I565	21
28	ELECTRON TUBE AMPLIFIERS AND CIRCUITS	J609	22
29	SPECIAL PURPOSE ELECTRON TUBES	J616	23
30	HETERODYNING, MODULATION, AND DEMODULATION	J632	23
31	AM SYSTEMS	K638	23
32	FM SYSTEMS	K666	24

TABLE 1 (CONTINUED)

## EPI SUBJECT AREAS

<u>SEQUENCE OF SUBJECT AREAS</u>	<u>SUBJECT AREA TITLE</u>	<u>BEGINNING ITEM NUMBER</u>	<u>GPSUM PAGE NUMBER</u>
33	NUMBERING SYSTEMS	K685	25
34	LOGIC FUNCTIONS	L695	25
35	BOOLEAN EQUATIONS	L708	26
36	COUNTERS	L733	27
37	TIMING CIRCUITS	M757	27
38	USE OF SIGNAL GENERATORS	M769	28
39	MOTORS AND GENERATORS	M779	28
40	METER MOVEMENTS	N808	29
41	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS	N818	29
42	WAVESHAPING CIRCUITS	N834	30
43	SINGLE SIDEBAND SYSTEMS	O845	30
44	PULSE MODULATION SYSTEMS	O875	31
45	ANTENNAS	O914	32
46	TRANSMISSION LINES	P953	34
47	WAVEGUIDES AND CAVITY RESONATORS	P984	35
48	MICROWAVE AMPLIFIERS AND OSCILLATORS	P1034	37
49	REGISTERS	Q1110	39
50	STORAGE DEVICES	Q1117	40
51	DIGITAL TO ANALOG CONVERTERS	Q1126	40
52	PHANTASTRONS	Q1140	41
53	SCHMITT TRIGGERS	R1141	41
54	CABLE FABRICATION	R1144	41
55	INPUT/OUTPUT DEVICES	S1146	41
56	PHOTO SENSITIVE DEVICES	S1149	41
57	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	S1150	41
58	INFRARED	T1159	41
59	LASERS	T1186	42
60	DISPLAY TUBES	T1220	43
61	PROGRAMMING	U1234	43
62	DB AND POWER RATIOS	U1255	44



TABLE 2  
COMMAND REPRESENTATION OF SURVEY SAMPLE

COMMAND	34153	
	PERCENT ASSIGNED	PERCENT OF SAMPLE
SAC	58	59
MAC	14	12
TAC	8	11
ADC	8	8
USAFE	5	2
ATC	3	1
OTHERS	4	7
TOTAL	100	100

Total Assigned - 335  
Total Sampled - 202  
Percent Sampled - 60%

#### PRESENTATION OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of the GPSUM lists the eight selected groups identified for this report. Pages 2-44 show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the Transformers area results are given on page 6 of the GPSUM. The percentage of survey respondents indicating use of specific electronic principles ranged from high in areas such as Resistance (pp. 2-3), Soldering (pp. 11-12), and Motors (pp. 28-29) to low in areas such as AM and FM Systems (pp. 23-25), SSB Systems (pp. 30-31), Antennas (pp. 32-34), Transmission Lines (pp. 34-35), Waveguides or Cavity Resonators (pp. 35-37), and Klystrons, Traveling Wave Tubes (TWT), Parametric Amplifiers, or Magnetrons (pp. 37-39). Additional AFSC 34153 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

GPSUM3 PAGE 1

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS  
IN THE 341X3 CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY =	SPC051	ALL AIRMEN DAFSC 34153	CONTAINING	202 MEMBERS.
GROUP IDENTITY =	SPC052	ALL AIRMEN DAFSC 34153 STATIONED IN CONUS	CONTAINING	185 MEMBERS.
GROUP IDENTITY =	SPC053	ALL AIRMEN DAFSC 34153 STATIONED OVERSEAS	CONTAINING	18 MEMBERS.
GROUP IDENTITY =	SPC054	ALL AIRMEN DAFSC 34153 ASSIGNED TO ADC	CONTAINING	17 MEMBERS.
GROUP IDENTITY =	SPC055	ALL AMN DAFSC 34153 ASSIGNED TO MAC	CONTAINING	25 MEMBERS.
GROUP IDENTITY =	SPC056	ALL AMN DAFSC 34153 ASSIGNED TO SAC	CONTAINING	119 MEMBERS.
GROUP IDENTITY =	SPC057	ALL AMN DAFSC 34153 ASSIGNED TO TAC	CONTAINING	23 MEMBERS.
GROUP IDENTITY =	SPC058	ALL AMN DAFSC 34153 ASSIGNED TO USAF	CONTAINING	5 MEMBERS.





PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

GPSUM3 PAGE 3

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

		DT-TSK																			
		SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
		051	052	053	054	055	056	057	058												
A 34	A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	95	95	100	100	68	96	91	100												
A 35	A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	28	28	22	35	20	25	43	0												
A 36	A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.	26	24	39	35	4	26	30	60												
A 37	A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	99	99	100	94	100	99	100	100												
A 38	A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	81	80	83	82	56	85	78	80												
A 39	A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	74	74	78	71	48	78	78	80												
A 40	A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	82	81	83	82	68	84	78	80												
A 41	A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	50	49	67	59	28	52	43	60												
A 42	A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	80	79	83	82	56	85	70	80												
A 43	A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	73	73	78	76	48	77	70	80												
A 44	A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	79	79	83	82	68	82	70	80												
A 45	A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	71	71	78	71	44	76	70	80												
A 46	A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	51	50	67	59	28	54	43	60												
A 47	A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	79	78	83	76	60	85	65	80												
A 48	A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	71	71	78	65	44	77	61	80												
A 49	A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	76	76	78	76	68	79	61	80												
A 50	A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	69	68	78	59	44	75	61	80												
A 51	A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	50	49	67	59	28	52	39	60												
B 52	B1-01 DO YOU MEASURE RESISTANCE.	100	100	100	100	100	100	100	100												
B 53	B1-02 DO YOU REPAIR OHMMETERS.	8	7	17	6	0	7	17	0												
B 54	B1-03 DO YOU MEASURE VOLTAGE.	99	99	100	100	100	98	100	100												
B 55	B1-04 DO YOU REPAIR VOLTMETERS.	7	6	11	0	0	6	17	0												
B 56	B1-05 DO YOU REPAIR AMMETERS.	6	6	11	0	0	8	4	0												
B 57	B1-06 DO YOU MEASURE CURRENT.	84	84	83	88	68	84	96	100												
B 58	B1-07 DO YOU USE MULTIMETERS.	99	99	100	100	100	98	100	100												
B 59	B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	9	9	6	18	8	8	0	0												
B 60	B1-09 DO YOU READ SCHEMATICS.	100	100	100	100	100	100	100	100												

MULTIMETER USES



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UY-15K

C 92 CI-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.

C 93 CI-02 DO YOU INSPECT CAPACITORS.

C 94 CI-03 DO YOU CLEAN CAPACITORS.

C 95 CI-04 DO YOU ADJUST CAPACITORS.

C 96 CI-05 DO YOU TEST CAPACITORS.

C 97 CI-06 DO YOU DISCHARGE CAPACITORS.

C 98 CI-07 DO YOU REMOVE OR REPLACE CAPACITORS.

C 99 CI-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.

C 100 CI-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.

C 101 CI-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.

C 102 CI-11 DO YOU USE OR REFER TO CAPACITANCE.

C 103 CI-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT

C 104 CI-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS

C 105 CI-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE

C 106 CI-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES

C 107 CI-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS

C 108 CI-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS

C 109 CI-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC

C 110 CI-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS

C 111 CI-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS

C 112 CI-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT

C 113 CI-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS

C 114 CI-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES

C 115 CI-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL

C 116 CI-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS

C 117 CI-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO

C 118 CI-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS

C 119 CI-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY

C 120 CI-29 DO YOU CALCULATE CAPACITIVE REACTANCE

CAPACITORS AND  
CAPACITIVE REACTANCE[illegible]



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UY-15K

[illegible]



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0V-75K

[illegible]



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

## DY-TSK

	SFC 051	SFC 052	SFC 053	SFC 054	SFC 055	SFC 056	SFC 057	SFC 058
D 204 DI-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS	48	48	44	47	48	50	39	60
D 205 DI-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	30	29	33	47	16	27	35	40
D 206 DI-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	19	20	22	41	12	18	17	20
D 207 DI-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	20	21	28	41	8	18	22	40
D 208 DI-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	14	14	22	24	4	14	13	40
D 209 DI-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	22	22	28	35	16	19	26	44
D 210 DI-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	13	13	17	24	4	11	17	20
D 211 DI-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	11	11	17	18	0	12	9	20
D 212 DI-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	14	15	17	18	12	15	9	20
D 213 DI-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	11	11	17	12	0	13	9	20
D 214 DI-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	23	24	28	41	16	21	26	40
D 215 DI-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	12	12	17	12	0	13	17	20
D 216 DI-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	14	14	17	18	0	14	17	20
D 217 DI-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW	20	20	28	35	12	17	26	40
D 218 DI-34 DO YOU CHECK CAPACITORS USING OHMMETERS	67	69	44	76	56	70	70	60
D 219 DI-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	53	54	44	59	36	57	52	40
D 220 DI-36 DO YOU CHECK INDUCTORS USING OHMMETERS	59	61	44	71	56	62	52	60
D 221 DI-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	43	43	44	59	28	47	30	40
D 222 DI-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT $\theta = 0$ , $PF = 1$ , AND $PA = PT$ FOR RESONANT CIRCUITS	6	7	6	6	4	8	4	0
D 223 DI-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	15	15	17	24	16	13	26	20
D 224 DI-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS	22	22	28	41	16	19	30	40
D 225 DI-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS	18	18	33	29	12	17	17	40
D 226 DI-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	23	24	28	41	8	24	17	40
D 227 DI-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	10	10	17	12	4	11	4	20
D 228 DI-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	21	21	33	35	0	23	22	40



PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

SPSUM3 PAGE 11

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DT-TSK

D 259 D3-21 DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT  
D 260 D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE  
CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC  
FILTERS

SPC SPC SPC SPC SPC SPC SPC SPC  
051 052 053 054 055 056 057 058

27 28 6 12 32 30 30 0  
13 13 17 29 0 12 22 20

E 261 E1-01 DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB  
E 262 E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO  
THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC  
COUPLING

COUPLING

69 70 56 71 60 73 61 40  
67 68 50 71 56 71 61 40

E 263 E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO  
THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH  
IMPEDANCE COUPLING

54 56 44 53 40 60 48 40

E 264 E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO  
THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH  
TRANSFORMER COUPLING

68 70 44 65 56 74 61 40

E 265 E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS  
WHICH PERFORM RC COUPLING

66 67 56 71 52 70 61 40

E 266 E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS  
WHICH PERFORM IMPEDANCE COUPLING

55 55 50 53 44 58 52 40

E 267 E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS  
WHICH PERFORM TRANSFORMER COUPLING

67 68 50 65 52 72 61 40

E 268 E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS

64 65 56 65 48 68 61 40

E 269 E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED  
CIRCUITS

62 63 56 65 52 66 52 40

E 270 E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED  
CIRCUITS

47 47 50 59 36 47 43 40

E 271 E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS

64 66 50 65 48 69 61 40

E 272 E1-12 DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUITS

19 21 11 18 8 21 30 0

E 273 E2-01 IN YOUR PRESENT JOB, DO YOU PERFORM SOLDERING  
TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS

SOLDERING

99 98 100 100 100 97 100 100

E 274 E2-02 DO YOU SELECT TYPE OF SOLDER TO USE

73 72 78 59 76 74 70 80

E 275 E2-03 DO YOU ADD FLUX TO CONNECTIONS

72 71 83 94 76 64 91 60

E 276 E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS

71 70 89 71 60 68 87 80

E 277 E2-05 DO YOU STRIP INSULATION FROM WIRES

98 98 100 94 96 98 100 100

E 278 E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS

91 90 94 94 92 90 87 80

E 279 E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS

98 97 100 94 96 98 96 100

E 280 E2-08 DO YOU CUT WIRES

98 97 100 94 96 98 96 100

E 281 E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS

79 79 78 76 84 75 91 80

E 282 E2-10 DO YOU CLEAN SOLDERING IRON TIPS

96 96 100 94 92 96 100 100

E 283 E2-11 DO YOU CLEAN SOLDERING IRON TIPS

98 97 100 94 96 97 100 100

E 284 E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS

75 75 83 82 64 73 83 80

E 285 E2-13 DO YOU TIN OR PRE-TIN CONDUCTIONS

94 94 100 94 96 95 100 100

E 286 E2-14 DO YOU INSPECT SOLDERED CONNECTIONS

98 97 100 94 96 97 100 100

E 287 E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING

53 54 44 59 40 54 70 20

E 288 E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING  
TOOLS

93 93 94 88 96 92 100 100

E 289 E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS

82 81 83 82 72 80 96 80

E 290 E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL

30 29 28 29 4 31 48 40





# PCT MEMBERS RESPONDING 'YES' BY SELECTED GRPS

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## TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

### DT-TSK

F 327	F2-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	SPL 77	SPL 76	SPL 78	SPL 71	SPL 92	SPL 71	SPL 96	SPL 60
F 328	F2-02	DO YOU INSPECT SPEAKERS	72	72	67	53	92	68	87	60
F 329	F2-03	DO YOU CLEAN SPEAKERS	49	48	50	59	20	51	65	60
F 330	F2-04	DO YOU OPERATE SPEAKERS	74	73	78	53	92	71	87	60
F 331	F2-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	69	68	67	41	72	70	76	60
F 332	F2-06	DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	20	21	17	47	28	16	22	20
F 333	F2-07	DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	70	71	61	59	88	67	83	60
F 334	F2-08	DO YOU REMOVE OR REPLACE SPEAKER PARTS	10	11	6	18	12	6	17	20
F 335	F2-09	DO YOU PERFORM ANY TASKS ON SPEAKER CONES	10	11	0	18	4	11	13	0
F 336	F2-10	DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	4	4	0	12	0	4	4	0
F 337	F2-11	DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	6	7	0	6	12	7	4	0
F 338	F2-12	DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	6	6	0	0	8	7	9	0
F 339	F2-13	DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	7	8	0	0	8	10	4	0
F 340	F2-14	DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	6	6	0	0	8	8	4	0
F 341	F2-15	DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	4	5	0	0	4	6	4	0
F 342	F3-01	DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	96	96	94	100	80	98	100	100
F 343	F3-02	DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	90	90	89	94	76	92	91	80
F 344	F3-03	DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	92	92	94	100	72	94	96	100
F 345	F3-04	DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	95	95	94	94	76	98	96	100
F 346	F3-05	DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	74	75	67	82	60	77	76	60
F 347	F3-06	DO YOU USE OSCILLOSCOPES TO MEASURE TIME	47	46	56	71	40	39	74	80
F 348	F3-07	DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	40	41	33	65	24	39	39	40
F 349	F3-08	DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	77	78	67	82	48	83	74	80
F 350	F3-09	DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	38	39	39	65	20	35	57	60
F 351	F3-10	DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	90	90	94	100	64	95	83	100
F 352	F3-11	DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	68	68	78	82	52	67	78	80
F 353	F3-12	DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	87	86	100	94	68	87	91	100
G 354	G1-01	DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	96	96	100	100	100	95	91	100
G 355	G1-02	DO YOU INSPECT DIODES	91	91	89	88	92	91	91	100
G 356	G1-03	DO YOU REMOVE OR REPLACE DIODES	96	95	100	100	100	94	91	100
G 357	G1-04	DO YOU CHECK DIODES USING AN INSTRUMENT	90	89	100	94	92	87	91	100
G 358	G1-05	DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	7	6	11	0	4	8	4	20
G 359	G1-06	DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE LIAS RESISTANCE	14	14	17	12	4	14	22	20
G 360	G1-07	DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	20	19	33	12	12	22	22	60

OSCILLOSCOPES

SEMICONDUCTOR  
DIODES

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

**DY-TSK**

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
G 361 G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	64	63	78	71	48	65	65	80
G 362 G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	87	86	89	88	88	84	96	100
G 363 G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	13	15	6	18	4	17	9	0
G 364 G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	50	50	61	65	40	49	52	60
G 365 G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	42	42	44	35	40	39	65	60
G 366 G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	2	3	0	6	0	3	0	0
G 367 G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	4	4	0	12	0	5	0	0
G 368 G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	76	74	94	76	76	71	91	100
G 369 G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	3	5	6	0	0	6	4	20
G 370 G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	5	5	6	0	0	6	4	20
G 371 G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	46	45	61	65	32	45	57	60
G 372 G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	7	7	6	18	8	5	4	20
G 373 G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	4	4	6	6	0	3	4	20
G 374 G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	4	4	0	6	0	4	4	0
G 375 G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	7	7	6	18	12	5	0	20
G 376 G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	5	5	6	6	4	5	0	20
G 377 G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	84	82	100	82	88	80	91	100
G 378 G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	25	25	39	35	20	24	22	20
G 379 G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	41	42	44	76	32	36	43	60
G 380 G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)	17	18	17	29	4	17	22	20
G 381 G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	60	60	61	71	56	59	65	40
G 382 G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	7	8	6	6	12	7	0	20





TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

Dy-TSK

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-Y5K

6 437 G-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT

6 438 G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE  
CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN  
COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN  
BASE CURRENT

BASE CURRENT  
G 439 63-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN  
BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL  
G 440 63-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE  
CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN  
BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL  
G 441 63-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR  
CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A  
LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)

G 442 G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)

443 63-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR

6 444 G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON  
PARTICULAR TRANSISTOR  
EMITTER CONFIGURATION

9 445 G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON  
EMITTER CONFIGURATION  
EMITTER CONFIGURATION

G 446 G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON  
EMITTER CONFIGURATION

G 447 G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTONS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN

VOLTAGE TO DETERMINE THE VOLTAGE GAIN

6 449 63-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN

POWER GAIN. THE VOLTAGE GAIN IS DETERMINED BY THE POWER GAIN.

G 451 G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT (Q) OF A TRANSISTOR AT DIFFERENT TEMPERATURES

G 452 G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH

6 453 63-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION

[illegible]

# PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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## SYSTEM

G 454	G3-27	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION	13	13	22	12	4	12	30	40
G 455	G3-28	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION	16	16	22	18	16	13	35	40
G 456	G3-29	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION	16	16	22	18	16	12	39	40
G 457	G3-30	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	15	15	22	12	8	13	35	40
G 458	G3-31	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	20	19	28	18	16	14	52	60
G 459	G3-32	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	20	19	28	18	12	14	57	60
G 460	G3-33	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	15	15	22	12	8	12	39	60
G 461	G3-34	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	19	18	22	18	16	14	43	60
G 462	G3-35	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	19	18	22	18	16	14	43	60
G 463	G3-36	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	15	15	22	12	8	13	35	60
G 464	G3-37	DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	21	20	28	29	24	13	48	40
G 465	G3-38	DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	25	23	39	35	24	18	48	40
G 466	G3-39	DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	18	17	28	24	12	15	35	40
G 467	G3-40	DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	16	16	28	18	16	14	26	40
G 468	G3-41	DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	17	16	28	18	12	16	26	40
G 469	G3-42	DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	18	17	22	24	12	15	30	40
G 470	G3-43	DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR TRANSISTOR AMPLIFIERS IN THE COMMON COLLECTOR CONFIGURATION	10	9	22	18	8	7	22	40
G 471	G3-44	DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	13	13	17	24	4	10	35	20
G 472	G3-45	DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	20	19	22	29	8	16	43	40
G 473	G3-46	DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	30	29	39	35	32	23	65	40
G 474	G3-47	DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	16	15	28	12	4	13	39	40
G 475	G3-48	DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	17	17	22	18	12	13	48	40

### TASK GROUP SUMMARY

PERCENT MEMBERS PERA

[illegible]







TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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DY-15A									
	SPC U51	SPC U52	SPC U53	SPC U54	SPC U55	SPC U56	SPC U57	SPC U58	SPC U59
1 586 13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	13	14	0	12	4	15	13	0	0
1 587 13-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	22	23	17	24	20	24	17	40	0
1 588 13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	10	11	0	6	8	11	4	0	0
1 589 13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	8	9	0	0	0	10	9	0	0
1 590 13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	18	19	0	12	8	22	17	0	0
1 591 13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	11	12	0	0	0	14	13	0	0
1 592 13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	25	26	28	41	12	27	17	20	0
1 593 13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	18	19	11	24	6	18	26	0	0
1 594 13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	9	10	6	0	4	11	9	20	0
1 595 13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	8	9	6	0	4	10	4	20	0
1 596 13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	14	14	17	0	12	16	9	20	0
1 597 13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	14	14	17	0	12	16	13	20	0
1 598 13-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	75	75	83	71	72	77	70	100	0
1 599 13-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	36	36	39	53	24	35	35	80	0
1 600 13-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	65	68	56	82	52	71	52	60	0
1 601 13-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	57	57	61	47	44	63	52	40	0
1 602 13-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	59	59	72	41	24	71	43	60	0
1 603 13-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	14	15	17	6	8	15	17	40	0
1 604 13-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	9	10	0	0	4	12	4	0	0
1 605 13-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	89	89	89	94	72	92	87	80	0
1 606 13-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	94	94	89	94	76	98	91	100	0
1 607 13-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON	10	10	11	6	8	10	4	120	0
1 608 13-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	49	49	56	71	32	45	65	60	0
1 609 13-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	94	95	89	94	84	97	91	80	0
1 610 13-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	29	30	22	29	16	34	26	20	0





PCT MBMS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UY-TSK

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
K 642 KI-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	2	2	0	0	4	3	0	0
K 643 KI-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	2	2	0	0	4	3	0	0
K 644 KI-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	2	2	0	0	4	3	0	0
K 645 KI-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	2	2	0	0	4	3	0	0
K 646 KI-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	0	1	0	0	4	0	0	0
K 647 KI-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	1	1	0	0	4	1	0	0
K 648 KI-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	1	2	0	0	4	2	0	0
K 649 KI-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	1	1	0	0	4	1	0	0
K 650 KI-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	0	1	0	0	0	1	0	0
K 651 KI-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	1	0	0	0	1	0	0
K 652 KI-15 DO YOU PERFORM TASKS ON DETECTORS	0	0	0	0	0	0	0	0
K 653 KI-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	0	0	0	0	0	0	0	0
K 654 KI-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	1	1	0	0	0	2	0	0
K 655 KI-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	1	1	0	0	0	2	0	0
K 656 KI-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	0	0	0	0	0	0	0	0
K 657 KI-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	0	0	0	0	0	0	0	0
K 658 KI-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	0	0	0	0	0	0
K 659 KI-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	0	1	0	0	4	0	0	0
K 660 KI-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	0	0	0	0	0	0	0
K 661 KI-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	0	0	0	0	0	0
K 662 KI-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	0	0	0	0	0	0	0	0
K 663 KI-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	0	0	0	0	0	0	0	0
K 664 KI-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	2	2	0	0	4	3	0	0
K 665 KI-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	1	1	0	0	0	2	0	0
K 666 KI-29 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	2	2	6	0	0	3	4	0
K 667 KI-30 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	1	1	0	0	0	2	0	0
K 668 KI-31 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	1	1	0	0	0	2	0	0
K 669 KI-32 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	1	1	0	0	0	2	0	0
K 670 KI-33 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	1	1	0	0	0	2	0	0
K 671 KI-34 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	1	1	0	0	0	2	0	0
K 672 KI-35 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	1	2	0	0	0	3	0	0
K 673 KI-36 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	1	1	0	0	0	2	0	0
K 674 KI-37 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	1	1	0	0	0	2	0	0
K 675 KI-38 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	0	1	0	0	0	1	0	0

FM SYSTEMS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

BY-TASK

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
K 676 K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	0	1	0	0	0	1	0	0
K 677 K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0	1	0	0	0	1	0	0
K 678 K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	0	1	0	0	0	1	0	0
K 679 K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	0	1	0	0	0	1	0	0
K 680 K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	0	0	0	0	0	0	0
K 681 K2-16 DO YOU PERFORM TASKS ON LIMITERS	0	1	0	0	0	1	0	0
K 682 K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	0	1	0	0	0	1	0	0
K 683 K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	1	1	0	0	0	2	0	0
K 684 K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	0	1	0	0	0	1	0	0
K 685 K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	9	9	6	6	20	5	26	0
K 686 K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	10	10	0	0	24	6	30	0
K 687 K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	9	9	6	6	20	5	26	0
K 688 K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	8	8	0	0	20	5	22	0
K 689 K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	10	10	0	0	24	6	30	0
K 690 K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	8	8	0	0	20	5	26	0
K 691 K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	8	8	0	0	24	5	22	0
K 692 K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	8	8	0	0	20	5	22	0
K 693 K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	8	8	0	0	24	4	22	0
K 694 K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	8	8	0	0	20	5	22	0
L 695 L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	15	15	6	12	24	13	26	0
L 696 L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	9	9	0	6	20	6	22	0
L 697 L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	9	9	0	6	20	6	22	0
L 698 L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR LOGIC SYMBOLS WITH STATE INDICATORS	8	8	0	6	16	6	17	0
L 699 L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	7	8	0	0	20	6	13	0
L 700 L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	10	10	0	6	24	7	22	0
L 701 L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	10	10	0	6	24	7	22	0
L 702 L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR LOGIC SYMBOLS WITH STATE INDICATORS	9	9	0	0	20	7	22	0
L 703 L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	9	9	0	0	24	7	17	0
L 704 L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	10	10	0	6	20	8	26	0
L 705 L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	10	10	0	6	20	8	26	0
L 706 L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	10	10	0	6	20	8	26	0

LOGIC FUNCTIONS

NUMBERING  
SYSTEMS





TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UT-TSK

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	COUNTERS
L 733 L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	8	8	6	0	24	5	17	20	
L 734 L3-02 DO YOU USE OR REFER TO UP-COUNTERS	8	7	6	0	24	4	17	20	
L 735 L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	8	7	6	0	24	4	17	20	
L 736 L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	6	5	0	0	16	3	17	0	
L 737 L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	5	5	0	0	16	3	13	0	
L 738 L3-06 DO YOU USE OR REFER TO RING COUNTERS	3	3	0	0	8	3	9	0	
L 739 L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	6	6	0	0	16	4	13	0	
L 740 L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	5	5	0	0	12	3	13	0	
L 741 L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	7	6	0	0	20	4	17	0	
L 742 L3-10 DO YOU USE OR REFER TO UP CLOCKS	7	6	0	0	20	4	17	0	
L 743 L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	5	4	0	0	12	3	13	0	
L 744 L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	3	3	0	0	4	3	13	0	
L 745 L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	3	3	0	0	8	3	9	0	
L 746 L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	2	2	0	0	4	2	9	0	
L 747 L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	4	4	0	0	12	3	13	0	
L 748 L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	5	4	0	0	16	3	13	0	
L 749 L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	3	3	6	0	8	2	9	20	
L 750 L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	4	4	0	0	8	3	9	0	
L 751 L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	4	4	0	0	8	3	9	0	
L 752 L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	3	3	0	0	8	3	9	0	
L 753 L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	2	2	0	0	4	2	9	0	
L 754 L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	2	2	0	0	4	2	9	0	
L 755 L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	2	2	0	0	4	2	9	0	
L 756 L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	3	3	0	0	8	3	9	0	
M 757 M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	24	24	22	76	20	13	41	20	
M 758 M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	6	6	6	12	0	7	9	0	
M 759 M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	15	16	17	35	16	11	26	20	TIMING CIRCUITS
M 760 M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	12	12	17	35	8	9	17	20	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

52  
61  
7-  
1  
2-  
C1

[illegible]

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-TSK

[illegible]





# PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

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## TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

		UY-TSK											
		SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
		051	052	053	054	055	056	057	058	059	060	061	062
0 853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	0	0	0	0	0	0	0	0	0	0	0	0
0 854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	0	0	0	0	0	0	0	0	0	0	0	0
0 855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	0	0	0	0	0	0	0	0	0	0	0
0 856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	0	1	0	0	4	0	0	0	0	0	0	0
0 857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	0	0	0	0	0	0	0	0	0	0	0
0 858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	0	0	0	0	0	0	0	0	0	0
0 859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	0	1	0	0	4	0	0	0	0	0	0	0
0 860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	0	0	0	0	0	0	0	0	0	0	0	0
0 861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	0	0	0	0	0	0	0	0	0	0	0	0
0 862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	0	1	0	0	4	0	0	0	0	0	0	0
0 863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	0	1	0	0	4	0	0	0	0	0	0	0
0 864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	0	0	0	0	0	0	0	0	0	0	0
0 865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	0	0	0	0	0	0	0	0	0	0	0	0
0 866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	0	1	0	0	4	0	0	0	0	0	0	0
0 867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB	0	1	0	0	4	0	0	0	0	0	0	0
SYSTEM STAGES													
0 868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	0	0	0	0	0	0	0	0	0	0	0	0
0 869	01-25 DO YOU USE OR REFER TO PEAK POWER	0	0	0	0	0	0	0	0	0	0	0	0
0 870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	0	0	0	0	0	0	0	0	0	0	0	0
0 871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	0	0	0	0	0	0	0	0	0	0	0	0
0 872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0	0	0	0	0	0	0	0	0	0	0
0 873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	0	0	0	0	0
0 874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	0	0	0	0	0
0 875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	7	8	6	29	0	6	13	0	0	0	0	0
0 876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	7	8	6	29	0	6	13	0	0	0	0	0
0 877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	7	8	6	24	0	6	13	0	0	0	0	0
0 878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	7	8	6	29	0	6	13	0	0	0	0	0
0 879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	8	9	6	29	0	6	17	0	0	0	0	0
0 880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	6	9	6	29	0	6	17	0	0	0	0	0
0 881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	8	9	6	29	0	6	17	0	0	0	0	0
0 882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	7	8	6	29	0	6	13	0	0	0	0	0
0 883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	6	6	6	29	0	5	4	0	0	0	0	0
0 884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	6	6	6	29	0	5	4	0	0	0	0	0
0 885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	5	5	0	12	0	6	4	0	0	0	0	0
0 886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	4	4	0	6	0	5	4	0	0	0	0	0
0 887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	4	5	0	12	0	5	4	0	0	0	0	0
0 888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	4	5	0	6	0	4	13	0	0	0	0	0

PULSE MODULATION SYSTEMS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

WY-15K

[illegible]

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

92-158

[illegible]

PCT HRS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

UT-12A

SPC SPC SPC SPC SPC SPC SPC SPC SPC SPC  
001 002 003 004 005 006 007 008

0 945 03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC  
ELEMENTS  
0 946 03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC  
ELEMENTS SERVING AS DIRECTORS  
0 947 03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC  
ELEMENTS SERVING AS REFLECTORS  
0 948 03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T  
REMEMBER WHAT KIND OF ELEMENTS  
0 949 03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS  
0 950 03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS  
0 951 03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY  
0 952 03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS  
P 953 PI-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION  
LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS  
BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL  
AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER  
WAVEGUIDES AS TRANSMISSION LINES)  
P 954 PI-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN  
TRANSMISSION LINES  
P 955 PI-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY  
CURRENTS IN TRANSMISSION LINES  
P 956 PI-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION  
LINES  
P 957 PI-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN  
TRANSMISSION LINES  
P 958 PI-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION  
LINES  
P 959 PI-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES  
P 960 PI-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES  
P 961 PI-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES  
P 962 PI-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION  
LINES  
P 963 PI-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION  
LINES  
P 964 PI-12 DO YOU TROUBLESHOOT TRANSMISSION LINES  
P 965 PI-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN  
TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION  
(OPEN, SHORTED, CAPACITIVE, INDUCTIVE)  
P 966 PI-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES  
TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS  
P 967 PI-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE  
TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS  
P 968 PI-16 DO YOU MEASURE STANDING WAVE RATIOS (SWR) OF  
TRANSMISSION LINES  
P 969 PI-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF  
TRANSMISSION LINES  
P 970 PI-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO  
DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH  
MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS

TRANSMISSION  
LINES



### TASK GROUP SUMMARY

PERCENT MEMBERS PERFORMING

NY-75K

[illegible]

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

CY-TSR

	SPC US1	SPC US2	SPC US3	SPC US4	SPC US5	SPC US6	SPC US7	SPC US8
P1003 P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	0	0	0	0	0	0	0	0
P1004 P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	0	0	0	0	0	0	0	0
P1005 P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0	0	0	0
P1006 P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0	0	0	0
P1007 P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0	0
P1008 P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0	0
P1009 P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0	0
P1010 P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY	0	0	0	0	0	0	0	0
P1011 P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE	0	0	0	0	0	0	0	0
P1012 P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	0	0	0	0	0	0	0	0
P1013 P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	0	0	0	0	0	0	0	0
P1014 P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR DIRECTION OF "H" FIELD IN WAVEGUIDES	0	0	0	0	0	0	0	0
P1015 P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0	0	0	0
P1016 P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0	0	0	0
P1017 P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0	0	0	0
P1018 P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0
P1019 P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0
P1020 P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0
P1021 P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0
P1022 P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0
P1023 P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0	0
P1024 P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0	0

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

SPC SPC SPC SPC SPC SPC SPC SPC SPC SPC  
051 052 053 054 055 056 057 058

UY-TSK

P1025 P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES  
IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO  
TECHNICAL DATA

P1026 P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY  
RESONATORS YOU WORK WITH

P1027 P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY  
RESONATORS YOU WORK WITH

P1028 P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN  
WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH

P1029 P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING

P1030 P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING

P1031 P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING

P1032 P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER  
THE METHOD OF TUNING

P1033 P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY  
RESONATORS

P1034 P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS,  
TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR  
MAGNETRONS

P1035 P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE

P1036 P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME

P1037 P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE

P1038 P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL  
CIRCUITRY

P1039 P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY  
MODULATION

P1040 P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING

P1041 P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS

P1042 P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS

P1043 P3-10 DO YOU WORK WITH REFLEX KLYSTRONS

P1044 P3-11 DO YOU WORK WITH TRAVELLING-WAVE TUBES (TWT)

P1045 P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC  
AMPLIFIERS

P1046 P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS

P1047 P3-14 DO YOU WORK WITH MAGNETRONS

P1048 P3-15 DO YOU INSPECT KLYSTRONS OR TWT

P1049 P3-16 DO YOU CLEAN KLYSTRONS OR TWT

P1050 P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY

P1051 P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY

P1052 P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR  
TWT

P1053 P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT

P1054 P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT

P1055 P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS

P1056 P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS

P1057 P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS

P1058 P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS

MICROWAVE  
AMPLIFIERS AND  
OSCILLATORS





# PCT MBS RESPONDING 'YES' BY SELECTED GRPS

GPSUM3 PAGE 39

## TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

01-15A

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P1088 P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	0	0	0	0	0	0	0	0
P1089 P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	0	1	0	6	0	0	0	0
P1090 P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	1	0	6	0	0	0	0
P1091 P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	1	0	6	0	0	0	0
P1092 P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	0	1	0	6	0	0	0	0
P1093 P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	0	0	0	0	0	0	0	0
P1094 P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	0	0	0	0	0	0	0	0
P1095 P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0	0	0	0	0	0
P1096 P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	0	0	0	0	0	0	0	0
P1097 P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	0	0	0	0
P1098 P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	0	0	0	0
P1099 P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	0	0	0	0
P1100 P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0	0	0	0	0	0
P1101 P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0	0	0	0	0	0
P1102 P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE- BIAS BATTERIES	0	0	0	0	0	0	0	0
P1103 P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	0	0	0	0
P1104 P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0	0	0	0	0	0
P1105 P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	0	0	0	0
P1106 P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	0	0	0	0
P1107 P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0	0	0	0	0	0
P1108 P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	0	0	0	0
P1109 P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	0	0	0	0
Q1110 Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	5	5	0	0	20	3	9	0
Q1111 Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	5	5	0	0	20	3	9	0
Q1112 Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	5	5	0	0	20	3	9	0
Q1113 Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	5	5	0	0	20	3	9	0
Q1114 Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	4	4	0	0	20	2	4	0
Q1115 Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	4	4	0	0	20	2	4	0

REGISTERS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

		DT-TASK													
		SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
		001	002	003	004	005	006	007	008	009	010	011	012	013	014
Q1116 Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED		3	2	0	0	0	12	3	4	0					
Q1117 Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB		8	8	0	0	0	28	4	17	0					
Q1118 Q2-02 DO YOU USE OR REFER TO DELAY LINES		6	5	0	0	12		4	17	0					
Q1119 Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES		5	5	0	0	8		4	17	0					
Q1120 Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS		6	5	0	0	12		4	17	0					
Q1121 Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES		6	5	0	0	12		4	17	0					
Q1122 Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS		6	6	0	0	16		4	13	0					
Q1123 Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS		7	6	0	0	24		3	17	0					
Q1124 Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS		4	4	0	0	8		4	4	0					
Q1125 Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES		4	4	0	0	0		4	4	0					
Q1126 Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS		12	12	6	0	40		7	26	20					
Q1127 Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES		6	5	6	0	20		3	13	20					
Q1128 Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS		4	3	6	0	4		3	9	20					
Q1129 Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS		6	5	6	0	16		3	13	20					
Q1130 Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS		3	3	0	0	12		3	4	0					
Q1131 Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS		3	3	0	0	8		3	4	0					
Q1132 Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS		3	3	0	0	12		3	4	0					
Q1131 Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS		3	3	0	0	12		3	0	0					
Q1134 Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS		4	4	0	0	12		3	13	0					
Q1135 Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS		4	4	0	0	12		3	4	0					
Q1136 Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS		4	4	0	0	12		3	4	0					
Q1137 Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS		4	4	0	0	12		3	9	0					
Q1138 Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS		5	5	0	0	16		3	9	0					
Q1139 Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS		8	8	0	0	24		5	17	0					

DIGITAL TO  
ANALOG CONVERTERS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

XY-YSK

	DY-TSK	SFC DSI	SFC OS1	SFC OS2	SFC OS3	SFC OS4	SFC OS5	SFC US6	SFC OS7	SFC OS8
T1210 T2-25 DO YOU WORK WITH HALF SILVERED (92B REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	0	0
T1211 T2-26 DO YOU WORK WITH HELICAL FLASHTUBES										
T1212 T2-27 DO YOU WORK WITH RUBY	0	0	0	0	0	0	0	0	0	0
T1213 T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0	0	0	0	0	0	0	0
T1214 T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	0	0	0	0	0	0
T1215 T2-30 DO YOU WORK WITH XENON	0	0	0	0	0	0	0	0	0	0
T1216 T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	0	0	0	0	0	0
T1217 T2-32 DO YOU WORK WITH ARGON	0	0	0	0	0	0	0	0	0	0
T1218 T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	0	0	0	0	0	0
T1219 T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0	0	0	0	0	0	0	0
T1220 T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE STORAGE TUBES (MMST)	12	11	28	71	0	2	30	40		
T1221 T3-02 DO YOU INSPECT DVST OR MMST	11	11	28	71	0	2	30	40		
T1222 T3-03 DO YOU CLEAN DVST OR MMST	7	6	22	47	0	1	17	40		
T1223 T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	8	8	22	53	0	0	26	40		
T1224 T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	11	11	22	71	0	2	30	40		
T1225 T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	9	9	22	47	0	2	30	40		
T1226 T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	8	8	17	41	0	2	22	40		
T1227 T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	3	2	17	12	0	0	13	40		
T1228 T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	2	2	6	24	0	0	0	0		
T1229 T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	2	1	11	6	0	0	4	40		
T1230 T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	2	1	11	6	0	0	4	40		
T1231 T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	2	3	6	24	0	0	4	40		
T1232 T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	2	2	6	12	0	0	9	20		
T1233 T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	2	2	11	12	0	0	4	40		
T1234 U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	6	6	0	0	20	3	17	0		
U1235 U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	6	6	0	0	20	3	17	0		
U1236 U1-03 DO YOU USE OR REFER TO PROGRAMS	6	6	0	0	20	3	17	0		
U1237 U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	4	4	0	0	12	3	9	0		
U1238 U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	2	3	0	0	4	3	0	0		
U1239 U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	2	2	0	0	0	3	0	0		
U1240 U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	6	6	0	0	20	3	17	0		
U1241 U1-08 DO YOU USE OR REFER TO TIME-SHARING	4	4	0	0	4	3	13	0		
U1242 U1-09 DO YOU USE OR REFER TO DATA WORDS	5	5	0	0	16	3	13	0		
U1243 U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	5	5	0	0	16	3	13	0		
U1244 U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	5	5	0	0	16	3	13	0		
U1245 U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	4	4	0	0	8	3	9	0		
U1246 U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	5	5	0	0	16	3	13	0		
U1247 U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	4	4	0	0	8	3	9	0		
U1248 U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	4	4	0	0	8	3	9	0		

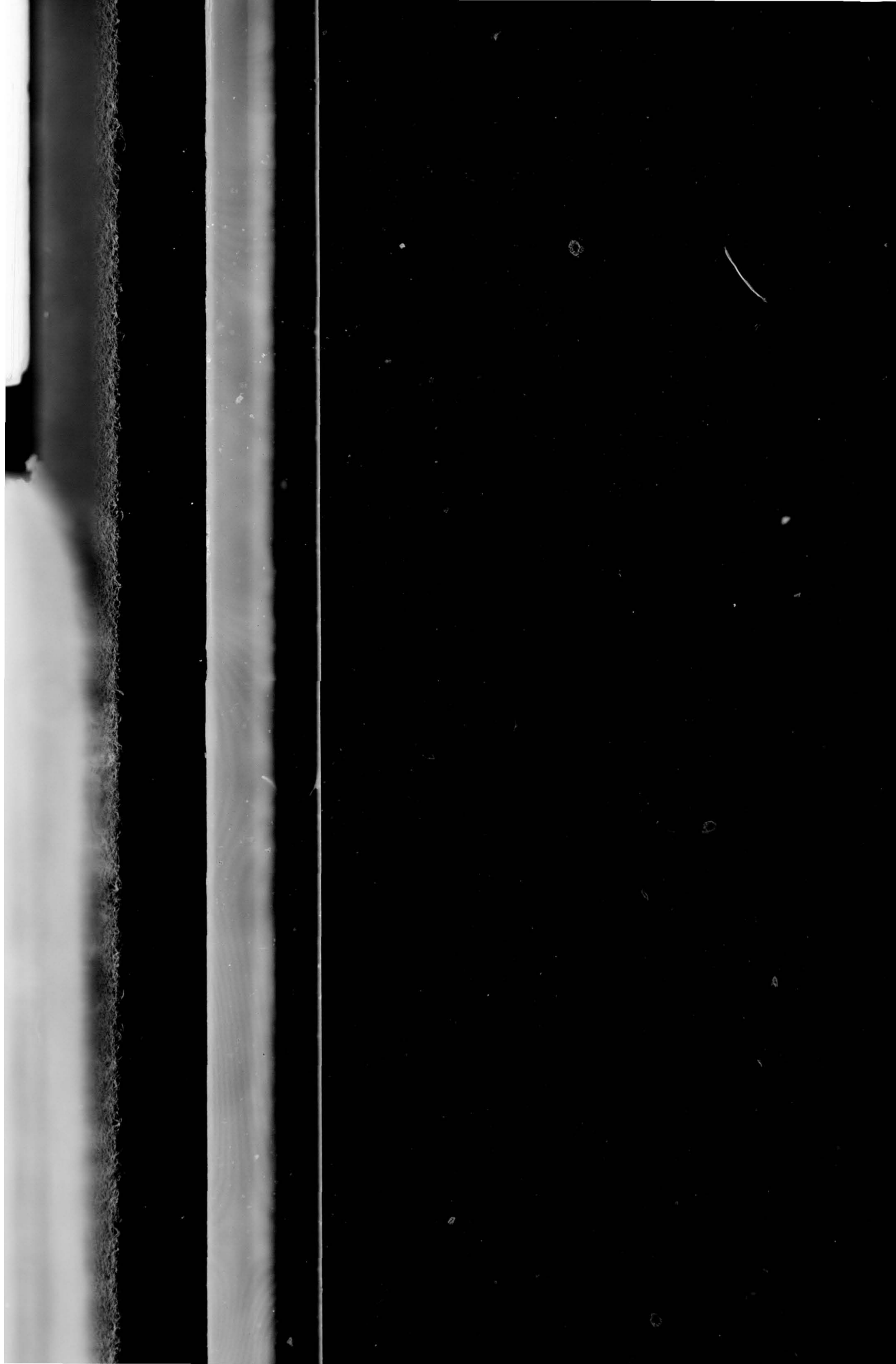
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### TASK GROUP SUMMARY

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DB AND POWER RATIOS









AD-A044 125 AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9  
ANALOG FLIGHT SIMULATOR SPECIALIST, AFSC 34153.(U)  
AUG 77 T J O'CONNOR, J B KEETH

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2 OF 2  
ADA  
044125



SUPPLEMENTARY  
INFORMATION



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044125



NATIONAL BUREAU OF STANDARDS  
MICROCOPY RESOLUTION TEST CHART

**SUPPLEMENTARY**

**INFORMATION**



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corrected

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFPT 90-341-222	2. GOVT ACCESSION NO. AD A044125/484	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Analog Flight Simulator Specialist AFSC 34153		5. TYPE OF REPORT & PERIOD COVERED FINAL April 77 - June 77
7. AUTHOR(s) Thomas J. O'Connor James B. Keeth		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Occupational Survey Branch USAF Occupational Measurement Center Lackland AFB TX 78236		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS SAME AS ITEM 9		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE 22 August 1977
		13. NUMBER OF PAGES 14
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)  Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Electronic principles      Electronics Basic electronics      Air Force Training Avionics      Teaching Methods Electronic Equipment      Training Electronic Technicians		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report summarized the results of the administration of the Electronic Principles Inventory to airmen assigned as Analog Flight Simulator Specialists (AFSC 34153). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder. <i>Zover</i>		

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→ This specialty has the following functions:

Installs, maintains, repairs, inspects, operates and modifies analog flight simulators, motion systems, and associated electronic equipment. Performs preventive maintenance on analog flight simulators. Installs, repairs, adjusts, and modifies analog flight simulators. Operates analog flight simulators and simulator equipment. Supervises analog flight simulator personnel.

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